

MONTHLY WEATHER REVIEW.

VOL. XI.

WASHINGTON, D. C., APRIL, 1883.

No. 4.

INTRODUCTION.

A summary of the general meteorological conditions which prevailed over the United States during April, 1883, is presented in this REVIEW. Brief descriptions are also given of the storms occurring in the north Atlantic ocean, the centres of which are approximately shown on chart ii.

April has been marked by severe local storms and tornadoes in many of the states, which have caused great loss of life and property.

The storm traced as number viii., on chart i., was of unusual severity. It appeared on the Pacific coast on the 19th, and crossed the continent during the succeeding five days. With this barometric depression occurred the violent tornadoes of the 22d and 23d in the southern states; and during its passage over the Rocky mountains, the lowest barometric readings observed during the past twelve years were recorded.

Respecting the temperature of April, there have been no marked deviations from the normal.

The precipitation has been above the average over a large area, extending from the north Pacific coast southeastward over the interior to the south Atlantic and Gulf coasts. It has been deficient in California and along the northern and southern boundaries of the country.

Dangerous freshets, occurring mostly in the smaller rivers and streams, in New England, the southern states, and Canadian Provinces, were attended by loss of life and destruction of property.

During 1882, from April to October, inclusive, special temperature and rainfall observations were made throughout the cotton-growing regions of the south. On April 1, 1883, these observations were resumed in those districts, and a table of averages for the same is published in this REVIEW.

Very complete reports have been received from those states in which meteorological bureaus have been organized. These will be found under the head of "Notes and Extracts," and clearly show the value of such local organizations, especially to those interested in agriculture.

The Hon. A. J. McWhirter, Commissioner of Agriculture, of Tennessee, refers to these reports as follows:

The great advantage to the agricultural interests of accurate meteorological data is becoming more patent as civilization progresses toward a higher sphere of enlightenment and intelligence in the art of cultivating the soil so as to reap the best results. Indeed, this is so closely interwoven with the interests of the intelligent farmer, that in many of the states it has become an indispensable adjunct to the agricultural bureaus—not so much for immediate purpose, as for future reference.

This department, yet in its infancy as a co-ordinate branch of the bureau, will no doubt, when brought to a higher state of excellence, prove, as it has in so many states, a most interesting and valuable auxiliary.

In the preparation of this REVIEW the following data received up to May 20th, have been used; viz.: the regular tri-daily weather-charts, containing data of simultaneous observations

taken at one hundred and thirty-one Signal Service stations and fifteen Canadian stations, as telegraphed to this office; one hundred and seventy-six monthly journals, and one hundred and seventy monthly means from the former, and fifteen monthly means from the latter; two hundred and thirty-two monthly registers from voluntary observers; fifty-three monthly registers from United States Army post surgeons; marine records; international simultaneous observations; marine reports, through the co-operation of the "New York Herald Weather Service;" abstracts of ships' logs, furnished by the publishers of "The New York Maritime Register;" monthly weather-reports from the local weather services of Indiana, Iowa, Nebraska, New Jersey and Tennessee, and of the Central Pacific railway company; trustworthy newspaper extracts; and special reports.

ATMOSPHERIC PRESSURE.

[Expressed in inches and hundredths.]

The distribution of mean atmospheric pressure for the month of April, 1883, determined from the tri-daily telegraphic observations of the Signal Service, is shown by the isobarometric lines in red on chart iii.

The area of least mean pressure is inclosed by the isobar of 29.85, and covers southern Colorado, northern New Mexico, and northeastern Utah. From the region of least mean pressure the barometric means increase rapidly to the westward, and are greatest over the middle Pacific coast region, where a small area is inclosed by the isobar of 30.05. To the northward and eastward of the area of least pressure, the monthly means increase gradually. From the lower lake region and southern New England southward to the east Gulf states, the mean pressure is from 30.00 to 30.04, being greatest in the south Atlantic states, while over northern New England and the Canadian Maritime Provinces a slight decrease occurs, the lowest barometric means being 29.92 and 29.93, reported from Father Point, Province of Quebec, and Charlottetown, Prince Edward Island, respectively.

The monthly mean pressure, compared with that of March, shows an increase over the central Pacific coast, varying from 0.01 to 0.06. In the lower lake region, the Saint Lawrence valley, and from North Carolina northeastward, the pressure is also greater than for March, the increase being greatest in the Maritime Provinces, where it averages about 0.15. In all other districts the pressure has decreased. Over an area between the ninety-fifth and one hundred and fifteenth meridians north of the thirty-fifth parallel, the decreases are from 0.20 to 0.30; in the upper Mississippi valley and western Gulf states, they are from 0.10 to 0.20, and in other districts, where decreases have occurred, they have been less marked.

DEPARTURES FROM THE NORMAL VALUES FOR THE MONTH.

On the middle Pacific coast, in New England, the middle Atlantic states and in the eastern part of the lower lake region, the pressure is below the normal. The departures in these districts are very slight, being most marked in New England. Elsewhere over the country the pressure is from normal to 0.11 below, the greatest departures occurring in the extreme northwest and in the lower Missouri valley.